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SHELBY, N.C. COMMUNITY FACILITIES PLAN

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# COMMUNITY FACILITIES PLAN



SHELBY, NORTH CAROLINA

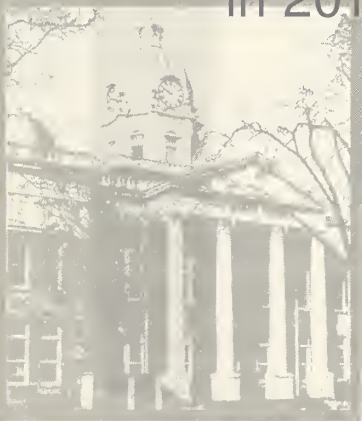


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# COMMUNITY FACILITIES PLAN

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SHELBY, NORTH CAROLINA

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The preparation of this report was financially aided through a Federal grant from the Urban Renewal Administration of the Department of Housing and Urban Development under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended.

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# INTRODUCTION





# SHELBY COMMUNITY FACILITIES PLAN

## INTRODUCTION

### PURPOSE

A community facilities study attempts to correlate the various and sundry service functions performed by municipal and county governments, school and hospital boards, volunteer fire departments, and other agencies which have jurisdiction within an urban area. This correlation is done in an attempt to stimulate interest in the provision of better services or extended services through the construction of new or expanded physical facilities. By looking ahead several years and working out a logical sequence whereby needed physical improvements can be built, the agencies involved can usually budget more effectively and save the taxpayers considerable money.

This report will supply the bulk of the data upon which the upcoming Public Improvements Program (which will cover a twenty-year planning period) and Capital Improvements Budget (which will cover a six-year period) will be based. The community facilities which will be studied are: civic buildings, city garage and yards, electric and gas systems, drainage and sanitary sewerage systems, sanitation service, street systems, water systems, fire and police departments, civil defense and rescue squad, schools, libraries, parks and recreation, and medical facilities.

### COMMUNITY ATTITUDE SURVEY

In December, 1963, the Shelby Jaycees conducted a Community Attitude Survey. The information derived from this survey is pertinent to the subject of neighborhood quality, community facilities and business services. Three hundred and sixty-six persons responded to the survey. Listed below are the ten most frequent answers to three very important questions.



# JAYCEE COMMUNITY ATTITUDE SURVEY

	<u>Frequency of Occurrence</u>
I. Is there anything that you particularly like about this community?	
1. Friendly people	80
2. School system	54
3. Appearance of city	50
4. Churches	48
5. City park & recreational facilities	27
6. Quiet place to live	13
7. Hospital & medical facilities	10
8. Geographic location of city	8
9. Size of community	8
10. Good city management	7
II. Is there anything that you particularly dislike about this community?	
1. Traffic & streets (streets too narrow, bad condition, layout)	29
2. Lack of parking facilities	19
3. Need to enforce speed laws inside city	15
4. City slum areas	15
5. Dogs running loose	14
6. Bad appearance of personal real estate	14
7. Need for additional recreational facilities	12
8. School buildings old and inadequate	11
9. Unfriendly to newcomers	10
10. Hospital facilities	9
III. In your opinion what are the five most important things which need to be done to make this a better community?	
1. Provide more and better recreational facilities for children & teenagers	63
2. Provide new school buildings, facilities and supplies	61
3. Improve and widen city streets	48
4. Provide more and better rental housing	38
5. Better law enforcement & police protection throughout the city	34
6. Better library facilities	29
7. Better hospital facilities	28
8. Enforce traffic laws to curb speeding	27
9. Clean up city slums	27
10. Provide more parking facilities	23





The responses which have special significance to a consideration of neighborhood quality are found under the second question, while those which pertain most directly to community facilities and services are found under the third question. Not only do traffic and parking problems bother a large number of people, it is apparent that slums and other examples of deteriorating property are noticed and deplored.

It should be noted that almost without exception the things which respondents said were needed in Shelby are things which fall within the city government's jurisdiction. Most of the other needs are the responsibility of other governmental agencies. The people of Shelby must realize that these requested improvements call for sizable expenditures. It is the purpose of the Community Facilities Plan and its follow-up documents, the Public Improvements Program and the Capital Improvements Budget, to show how these facilities and services can be provided over a period of years without unduly straining the city's financial position.

Following is a complete breakdown of responses to the detailed questions in the Community Attitude Survey. It gives a relatively definite assessment of public appreciations, dislikes and indifferences.



# JAYCEE COMMUNITY ATTITUDE SURVEY

## PART B

	1	2	3	4
1. Water pressure	32	46	11	11
2. Sewage disposal	25	46	11	18
3. Storm water drainage	17	36	25	22
4. Garbage collection	35	44	12	9
5. Gas pressure (cooking & heating)	28	21	1	50
6. Electricity (service)	47	40	3	10
7. Telephone (service)	55	38	3	4
8. Postal service	54	37	3	6
9. New coverage by newspaper	40	44	7	9
0. Television & radio programs	40	44	5	11
1. Fire protection	35	39	8	18
2. Law enforcement & police protection	26	43	16	15
3. Court services	17	31	12	40
4. Zoning ordinances	10	30	17	43
5. Legal services	20	40	3	37
6. Medical services	43	44	5	8
7. Dental services	42	40	5	13
8. Hospital services	27	33	22	18
9. Health Department	30	39	4	27
0. Welfare services (aid to families with financial, marital problems, etc.)	12	21	17	50
1. Public transportation to other communities	7	22	37	34
2. Public transportation inside community	7	25	58	10
3. Parking in business district	7	25	58	10
4. Street layout	13	41	26	70
5. Traffic signals & signs	16	45	26	13
6. Maintenance & cleaning of streets	27	45	17	11
7. Sidewalks	16	35	33	16
recreational opportunities for ...				
8. Children	28	33	26	13
9. Teenagers	18	24	36	22
0. Adults	14	37	29	20
1. Older people	10	21	34	35

1. Very Good
2. Adequate
3. Inadequate
4. Don't Know

	1	2	3	4
32. Public meeting places for teenagers social activities	10	26	40	24
33. Swimming facilities	24	44	22	10
34. Golfing facilities	21	42	11	26
35. Playgrounds for children	20	39	33	8
36. Fields for baseball & other sports	20	45	22	13
37. Parks & picnic areas	18	47	23	12
38. Public meeting place for large groups	9	34	33	24
39. Cultural opportunities	5	22	40	33

## Elementary School ...

40. Staff	46	33	4	17
41. Educational program	45	33	5	17
42. Buildings & equipment	25	27	28	20

## Junior High School ...

43. Staff	37	27	2	39
44. Educational program	33	24	5	38
45. Buildings & equipment	16	28	19	37

## Senior High School ...

46. Staff	37	19	2	42
47. Educational program	37	20	4	39
48. Buildings & equipment	45	18	4	33
49. Library	26	27	23	24
50. Restaurants	22	31	28	19
51. Hotels & motels	22	47	8	23
52. Shopping facilities	25	48	8	19
53. Service & repair fac.	20	45	12	23
54. Public rest rooms in business district	5	18	55	22

## Job opportunities for persons ...

55. Under 18	7	14	41	38
56. 18-39	11	34	23	32
57. 40-64	3	18	42	37
58. 65 & over	1	5	49	45
59. Community planning & development program	8	27	21	44
60. General appearance & attractiveness of community	21	32	20	27





## SCOPE

The area which will be encompassed in the present study is primarily the City of Shelby. However, where information was available for the one-mile perimeter it was included. Obviously, there is no aspect of long-range planning which is more closely akin to the subject of annexation than community facilities. Many of the recommendations of this report, with regard to the location of certain public buildings and the extension of utility lines, will be based on the assumption that certain fringe areas will eventually be annexed. It is mandatory for a rapidly growing city like Shelby to plan for the extension of utilities and services and thereby guarantee safe, healthy and orderly development.

## METHODOLOGY

The methodology to be employed will involve an inventory of the existing facilities and services offered, a statement of the problems and deficiencies which seem apparent and a listing of recommended actions. Appropriate standards will be used to measure the adequacy of existing facilities and services, but final recommendations will be tailored strictly to Shelby.

## POPULATION

In order to understand something of the magnitude of the growing pains which Shelby is experiencing, and which it will continue to experience, it is necessary to consider data on population growth and distribution. The following table lists population figures for Shelby proper, Shelby Township (excluding Shelby) and the entire Shelby Township for the years 1900 through 1960 ~~and~~ along with projections for 1970 and 1980.



TABLE 1		POPULATION TRENDS	
Year	Shelby	Shelby Township (excl. Shelby)	Total Shelby Township
1900	1,874	2,565	4,439
1910	3,127	3,433	6,560
1920	3,609	4,800	8,409
1930	10,789	5,447	16,236
1940	14,037	6,113	20,150
1950	15,508	7,923	23,431
1960	17,698	8,326	26,024
-----			
1970 (Projection)	19,617	7,430	27,047
1980 (Projection)	22,386	5,352	27,738
-----			
Source: <u>Shelby Population and Economy Report, 1963,</u> N. C. Division of Community Planning			

It will be noted that Shelby proper is expected to have 1,919 more residents in 1970 than it had in 1960 -- plus 2,769 more by 1980. This makes a total of 4,688 new citizens by 1980 -- all of whom will need the full complement of services offered by the city and other agencies. The remainder of the township's projected 1,023 increment by 1970 and additional 691 residents by 1980 are misleading and undependable. They are based on pessimistic premises regarding the rural non-farm population which, from every indication, do not apply to the Piedmont section of North Carolina.

The foregoing projections are useful in that they give a general picture of Shelby's growth potential. More detailed projections, however, are needed for the different neighborhoods of the city and quadrants of the fringe area in order that community facilities can be furnished to each area in the appropriate places and quantities. Table 2 shows the present, possible, and likely dwelling unit and population counts for each of the 15 study areas which have been utilized in planning reports.



TABLE 2

POTENTIAL ADDITIONAL DWELLING UNITS AND  
POPULATION BY STUDY AREAS

Study Areas	Persons/ Dwelling Unit	Dwelling Units Now	Popu- lation Now	Addi- tional Dwelling Units	Addi- tional Popu- lation	Total Dwelling Units	Total Popu- lation
1	2	62	124	0	0	62	124
2	4	812	3,248	-30	-120	782	3,128
3	3.8	747	2,839	-30	-120	717	2,719
4	3.5	369	1,292	345	1,208	714	2,500
5	3.5	620	2,170	0	0	620	2,170
6	3	449	1,347	290	870	739	2,217
7	3.5	329	1,152	465	1,628	794	2,780
8	3	549	1,649	300	900	849	2,547
9	3	472	1,416	300	900	772	2,316
10	3.5	412	1,442	250	875	662	2,317
11	3	341	1,023	183	549	524	1,572
Total City		5,162	17,700	2,073	6,690	7,235	24,390
12	3.5	368	1,288	1,452	5,082	1,820	2,740
13	3.5	173	606	500	1,750	673	2,356
14	3	251	771	1,954	5,862	2,205	6,633
15	3.5	307	1,075	894	3,129	1,201	4,204
Total Fringe		1,099	3,740	4,800	15,823	5,899	19,563
Grand Total		6,261	21,440	6,873	22,513	13,134	43,953

Source: N. C. Division of Community Planning

Some explanation is needed with regard to the preceeding table. The "Dwelling Units Now" column reflects the results of the land use and housing conditions survey taken during the Summer of 1962 (and updated when the Neighborhood Analysis was compiled). The "Population Now" column is based on the dwelling units column and computations involving the approximate number of persons per household in each study area. (The factors are shown in the column next to the study area numbers.) The "Additional Dwelling Units" column represents the number of dwelling units which can feasibly be built within the bounds of the different study areas. These are saturation counts based on existing zoning and density patterns, access, topography, drainage, vacant lots and other determinants. The "Additional Population" column is, of course, based on the "Additional





Dwelling Units" column; it was computed using the same persons-per-dwelling unit factors. The "Total Dwelling Units" and "Total Population" columns are cumulative.

Because the totals for the city, and especially the fringe area discussed above, are so much larger than the projected totals for the city and the township, it was necessary to estimate likely dwelling unit and population accretions by study areas in such a way that the totals arrived at would agree with the projections made in the Shelby Population and Economy Report. This was done in Table 3. Likely additional dwelling unit figures are given for 1970 and 1980 -- followed by resultant population figures based on the factors previously described. The probable total dwelling units and population columns are cumulative; and the grand total at the base of the column agrees with the projected 1970 and 1980 in-city populations. It was impossible to estimate probable dwelling units and population accretions for the four fringe study areas because a dependable projection of the fringe area's 1970 and 1980 populations was lacking. The township projections obviously would not suffice. The possibility of extensive annexations revising the boundaries of the fringe area further complicates the growth picture. The totals derived by means of each of the approaches described above (saturation counts and calculated likelihood) will be useful in all subsequent analyzations.





TABLE 3

## LIKELY ACCRETIONS

Study Areas	Per Cent Allocation New Decade's Construction	Dwelling Units Now	DU's by 1970 DU's by 1980		Population Population	Cumulative Likely Totals	
						Dwelling Units	Popu- lation
1		62	0		0	62	124
			0		0	62	124
2		812	0		0	782	3,128
			0		0	782	3,128
3		747	0		0	717	2,719
			0		0	717	2,719
4	20%	369	113		396	482	1,688
	18%		147	260	515	516	2,203
5		620	0		0	620	2,170
			0		0	620	2,170
6	12%	449	68		221	517	1,568
	12%		98	166	319	547	1,887
7	14%	329	79		287	408	1,439
	20%		163	242	319	492	2,020
8	14%	549	79		257	628	1,904
	14%		114	193	371	663	2,275
9	18%	472	102		332	574	1,748
	16%		130	232	423	602	2,171
10	10%	412	56		206	468	1,648
	10%		81	137	294	493	1,942
11	12%	341	68		221	409	1,244
	10%		82	150	267	423	1,511
-----							
Totals	100%	5,162	565		1,920	5,667	19,380
	100%		815		2,770	5,917	22,150
			1,380		4,690		

Source: N. C. Division of Community Planning





## COMMUNITY FACILITIES

### LEGEND FOR MAP 1

#### SCHOOLS

1. Cleveland Training 1-12
2. Graham 1-5
3. Senior High 10-12
4. Hunter 1-7
5. Jefferson 1-5
6. Junior High 7-9
7. Marion 1-5
8. Morgan 1-5
9. Oak 6
10. Washington 1-5
11. Northside (under construction)
12. Proposed school

#### PARKS AND RECREATION

13. Substation Park
14. Shelby Mills Ball Park
15. City Park
16. Northlake Club (private)
17. Ester Mill Village Park
18. Holly Oak Park
19. Optimist Ball Park
20. Cleveland Country Club (private)

#### MEDICAL

21. Cleveland Memorial Hospital and  
County Health Department
22. Sunset Cemetery
23. Lineberger Street Cemetery
24. Webb Memorial Cemetery

#### ELECTRICAL AND GAS

25. Electric Substation
26. Natural Gas Peak Shaving Plant

#### WATER

27. City Water Works
28. Elevated Water Tank

#### PUBLIC BUILDINGS AND YARDS

29. County Court House
30. Old Post Office
31. Cleveland Volunteer Fire Department
32. City Hall
33. New Post Office Site
34. Carver Library
35. County Jail, Sheriff's Office and  
Civil Defense Headquarters
36. Cleveland County Library (temporary)
37. Shelby Rescue Squad
38. National Guard Armory
39. City Shops and Yards and County School  
Bus Shops and Yards
40. City Dump

# EXISTING & PROPOSED COMMUNITY FACILITIES

## SHELBY

North Carolina



### LEGEND

- EXISTING
- PROPOSED









# COMMUNITY FACILITIES



## CIVIC BUILDINGS

### CITY HALL

The City Hall occupies a comparatively small lot at the corner of Graham and Washington Streets. The main structure was built by the WPA in 1938. The two-story building originally contained the offices of all city departments, including the fire and police departments, utilities, public works, finance and the library. Expansion of city functions has forced the library to move and has necessitated a brick addition to the police department's facilities. This addition was made in 1963. There is also a small one-story brick building in back of the main building which inadequately houses the City Engineer's office and a storage room. There is off-street parking for 12 vehicles including motorcycles.

### Inventory and Analysis

The City Hall presently houses the following offices and activities:

- City Manager's Office
- Building Inspector's Office
- Superintendent of Utilities' Office
- City Clerk-Treasurer's Office
- Utilities Billing and Collection
- Finance and Accounting Department
- Police Department (but no on-premises jail)
- Fire Department (four trucks)
- Gas Department
- Tax Collector
- City Council Room

The building is presently adequate for these functions, but another five years will bring about crowded conditions. Parking is already somewhat of a problem -- particularly for police and utilities department vehicles. As more and/or larger fire-fighting equipment is purchased the present fire station will become inadequate. It may become necessary to



build a separate structure for the engineering and utilities offices or for the police department -- or else utilize space in buildings such as the Medical Arts Building.

#### Recommendations

It is recommended that an architect be hired to design an annex to the City Hall, or begin conversion plans for the Medical Arts Building whenever the need arises for more office space. Parking could be provided in the center of the block and south of the theater.

### PUBLIC WORKS

#### CITY GARAGE AND YARDS

The City Garage and Yards are located on Earl Road just east of DeKalb Street. Approximately 3.5 acres are included in the site and this acreage should be adequate for the foreseeable future. There is not sufficient covered space at present to adequately protect all of the vehicles, materials, etc., which require protection from the elements. However, the entire area, including the unroofed portion, is paved. The garage is an economic necessity for Shelby since it gives the city in-house maintenance capability. The Superintendent of Public Works also has his office at the City Shops. No recommendations, other than providing covered space, will be made with regard to this facility. If, however, unanticipated development should occur in this area it may prove economically feasible to relocate this facility in order that the land may be developed to its best use.

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## ELECTRIC SERVICE

Shelby purchases electric power at wholesale rates from the Duke Power Company and resells it to customers (6,937 as of December 31, 1964) within the city. The entire incorporated area is served by the city's distribution grid except for a small area surrounding the new Porter Brothers building on the Bypass. Ideally, the city should serve all areas with electricity which it serves with water and sewer services. The city barely meets expenses on its provision of these two "fluid" utilities -- whereas it can realize some profit on electricity. Hopefully, some arrangement can be worked out with Duke Power whereby subdivisions and businesses which are astride the corporate limits, and possibly those beyond which have city water and sewer lines, can be supplied with electricity by the city. The city, of course, provides street lights where they are deemed appropriate.

The average daily consumption of electric power was 190,237 kilowatt hours in 1964. The maximum demand during any 30-minute interval was 14,430 KW, which occurred on July 24, 1964. The load is relatively well balanced at the present time, due partially to a new substation in the southeastern part of Shelby (there are four others), but if much additional development occurs in the northwestern part of Shelby, a substation will be required in that area.

## GAS SERVICE

Shelby installed a natural gas distribution system in 1955. It has proven to be a boon to the industrial development of Shelby and environs in addition to its convenience to home-owners and other consumers. The average daily consumption is  $7\frac{1}{2}$  million cubic feet. The maximum consumption to date was 8,881,000 cubic feet -- registered on December 10, 1964. About two-thirds of the total is consumed by





# EXISTING NATURAL GAS LINES

SHELBY  
North Carolina



LEGEND  
— 6" & 8" LINES  
— 3" & 4" LINES  
— 2" LINES





industrial users, chiefly the Carolina Plant of Pittsburgh Plate Glass Company. A six-inch line serves this plant. Map 2 shows the natural gas distribution system within Shelby and environs. A new \$120,000 peak shaving station has been built near the point in the southeastern part of Shelby where the eight-inch trunk line enters Shelby. This was an efficiency move.

It costs about one dollar per lineal foot to extend gas lines to customers and this cost is charged against developers. This charge, however, is refunded to the developer at the rate of \$200 per connection. The profit-making nature of this utility (along with electricity) makes this reimbursement an equitable policy. The Gas Department has eight employees, including the Superintendent and a secretary. It operates a fleet of five trucks and one automobile. No recommendations will be made about personnel or equipment. However, it is recommended that the city continue its policy of extending gas lines to customers outside the city. The profit as well as the consumer convenience motive makes this desirable.

#### DRAINAGE SYSTEM

Storm drainage in Shelby is controlled by a rather poorly coordinated system of natural channels and storm sewers. The natural channels or creeks carry most of the runoff. Barring unusual rain storms, they are adequate to the demand. However, when extreme downpours occur, these creeks are taxed unmercifully. Filling of creeks with discarded appliances and other trash hinders drainage. This is a common situation in those areas where creeks pass through slums. There is also the problem of funneling rain water from paved and roofed areas into the creeks. Obviously, very little of the water can soak into the ground in these areas, thereby necessitating a system of catch basins and storm sewers to collect the runoff



and funnel it to the open drainage ways. This is aggravated by the widespread areas and the associated runoff distances involved.

Shelby has approximately 20 miles of storm sewers in business and industrial areas at present serving the Central Business District and its immediate environs with outfalls to the northeast, southwest, northwest and southeast. The intersection of Suttle Street and Carolina Avenue is one of the problem areas. An increase in the artificial drainage system will solve most of the city's drainage problems -- provided parallel attention is given to the matter of channel clearance. There is adequate precedent in pertinent court cases for a city to remove obstructions from open channels -- in spite of private property questions. To wit" In Vertelas v. Water Resources Commission, 153A 2nd 882, 824, a Connecticut Court in 1959 stated:

"Its (the statute's) obvious purpose was to enable the water resources commission to forestall, by stream clearance, channel improvement and other flood control measures, a repetition of the havoc wrought in these floods. The legislation was an exercise of the police power of the state in the interest of public welfare."

Further, in State v. Metropolitan St. Louis Sewer District, 275 SW 2nd 225 (Missouri 1955), the Court upheld a similar regulation:

"Providing for drainage and sewerage is a governmental function and an exercise of the police power of the state... Therefore, it was proper to provide in the plan for powers to prevent pollution of water, ... to regulate drainage by establishing building lines and floodway reservations along water courses, to prevent building within such lines, to police and clean out channels of streams and to prevent dumping therein."



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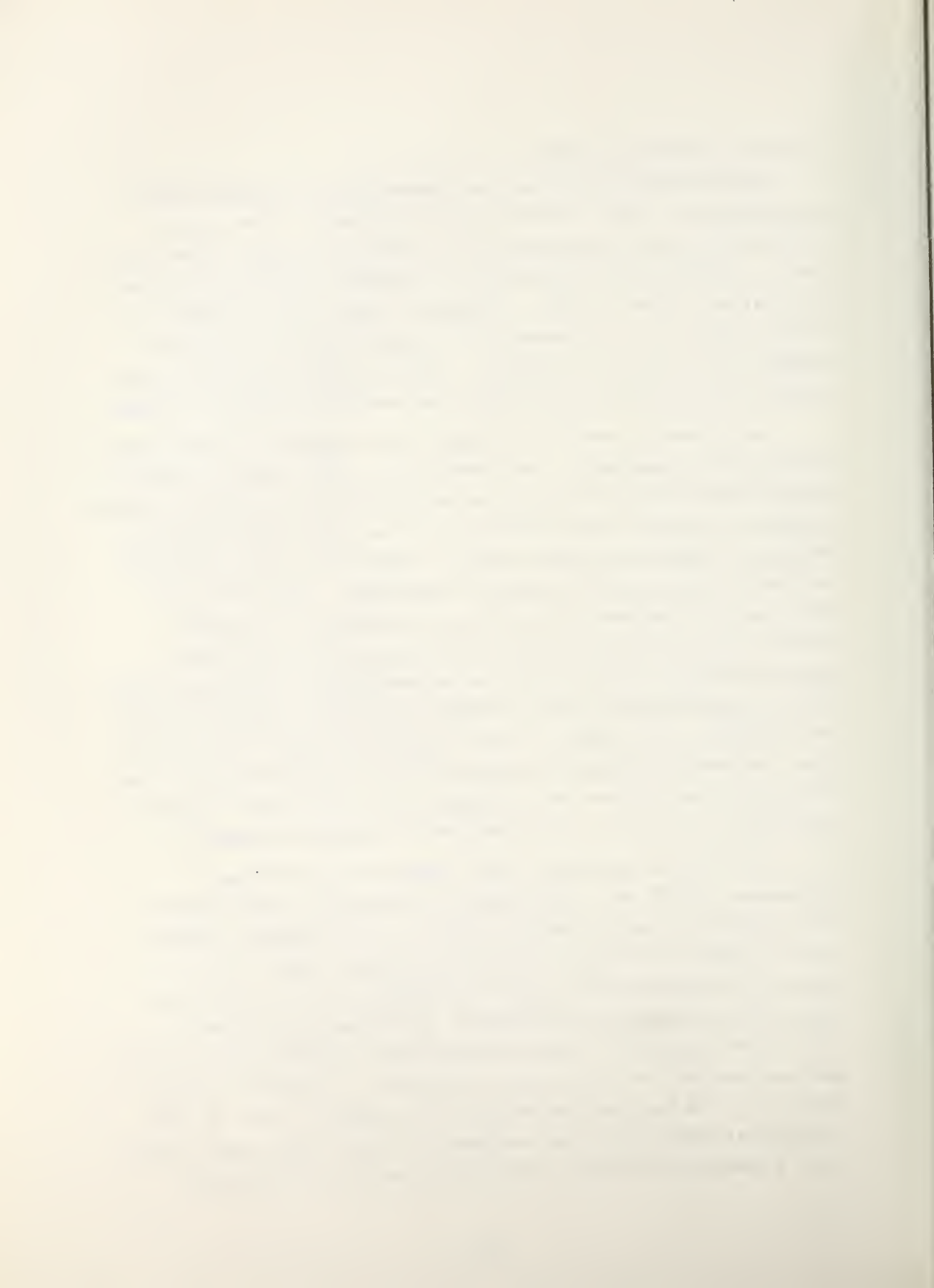
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## SANITARY SEWERAGE SYSTEM

This municipal service has undoubtedly prevented many epidemics and other health scares in Shelby. The basic collection system consists of the 36-inch Hickory Creek outfall, the 24-inch River outfall, and two 8-inch outfalls on the western side of town. There are very few buildings in Shelby which are not connected to mains which contribute sewage to these four outfalls. (Map 3 shows waste-drainage basins or collection areas and the sanitary sewerage system.)

At present, sewage is dumped into the First Broad River without any treatment. On October 13, 1964, the citizens of Shelby approved issuance of up to \$3,288,000 of sanitary sewer bonds to finance construction of a 6-million gallon-per-day capacity sewage treatment plant. Engineers' cost estimates on the project totalled about \$3,540,000. Available, in addition to the bond issue funds, are \$243,823 in capital reserve funds which the city has been setting aside for several years, plus \$8,203 from miscellaneous sources. (Also, Shelby has qualified for a Federal pollution abatement grant of \$543,810. The grant is to be applied toward the cost of the new sewage treatment plant now under construction.) The plant will be located on a 90-acre site which the city has purchased across N. C. 18 from Norris Packing Company.

The maximum recorded total sewage flow (through September, 1963) was 4.66 million gallons per day whereas the maximum average flow recorded was 1.67 million gallons per day (only about one-third of the peak flow). It was noted in an engineering report prepared by W. C. Olsen and Associates, Consulting Engineers, published in September, 1963, that industrial users contributed a maximum of 650,000 gallons per day to the system, whereas 1.4 million gallons per day would be discharged into the system if all of the industries which are just outside the city limits were tied in. Present per capita use within the city (including



industrial demand) averages 90.4 gallons per day. Based on maximum flows, the per capita use increases to 215 gallons per day. Quoting the aforementioned Olsen report:

"Using a projected 1980 population (24,000), and the per capita usage of Shelby today we would expect an average flow of 2.2 MGD and a maximum (average) flow of 5.2 MGD. Of course, the maximum figures are significant in the design of proposed treatment works."

Not only will the treatment works be able to process six million gallons per day -- they will be arranged in such a way as to permit a doubling of capacity to 12 MGD. Hence, the new treatment plant (with expansion) should serve all of Shelby's needs along these lines until the city reaches a population (including outside customers) of about 40,000. Of course, per capita use is bound to increase to 100 gallons per day and beyond as domestic and industrial demand rises. This factor has been weighed in connection with the 40,000 figure.

### Recommendations

Although Shelby, upon completion of its sewage treatment plant, will have adequate facilities in operation, continual enlargement and improvement of the system (particularly the collection system) will be needed as further development occurs and fringe areas are annexed. It therefore becomes imperative that a periodic study be made of the system to determine what improvements are necessary and when they should be provided.

Based on the requirements of the North Carolina State Stream Sanitation Committee, planning considerations and an analysis of existing facilities, the following recommendations for construction are made. The following is not intended to be considered as a priority listing, nor is it based on engineering studies. It is a "counter-clockwise" listing (starting in the southwestern quadrant) based on the obvious need for sewer services in rapidly growing areas as determined by the City and the Division of Community Planning staffs.



Extend sewer lines to serve likely new subdivisions between Charles Road and the creek which parallels S. R. 1220.

Extend sewer lines to serve the largely undeveloped areas bounded by Morrison Street and a creek on the north, the creek which parallels S. R. 1220 on the west, Dellinger Street on the south, and N. C. 18 and Dodd Street on the east.

Extend sewer lines to serve the largely undeveloped area bounded by Dellinger Street and the creek which parallels S. R. 1220 on the north and west, by Brittain Village on the south, and N. C. 18 on the east (including a line down Dellinger Street).

Extend an outfall up the creek which lies just east of Melrose Drive to serve homes along Lily and Cameron Streets as well as present and potential homes in the Melrose Drive area.

Extend a sewer main along S. Morgan Street from the city limits to the Hickory Creek outfall; also provide sewer service to the undeveloped area south of Whitener Street between S. Morgan Street and Hickory Creek.

Extend sewer lines to serve Washington Heights and the largely undeveloped area bounded by Earl Road on the north, Eaves Road on the west, a creek on the south, and Sulphur Springs Road on the east.

Extend sewer lines to serve the largely undeveloped area bounded by U. S. 74 on the north, S. R. 1213 and Sulphur Springs Road on the west, and a creek and the planning area boundary on the south and east.

Extend a sewer line along Earl Road from Grove Street to Holly Oak Road thence down it to a creek and along it to Hickory Creek.

Extend sewer lines to serve the undeveloped areas on both sides of Gidney Street.

Extend a sewer line eastward along the creek which lies just south of Eastway Heights to serve businesses along the north side of U. S. 74, plus other lines to serve homes in the area between Kings Road and the creek just north of Eastway Heights.





Extend an outfall along Little Hickory Creek from its present terminus near Richards Drive on up to Cleveland Springs Estates.

Extend sewer lines to the balance of the undeveloped area between Little Hickory Creek, Kings Road and Country Club Road.

Extend an outfall up the creek which lies between Country Club Road and Wilson Farm Road (to serve homes and greenhouses in the area); also, a branch line to serve Morrison Heights and vicinity.

Extend sewer lines to Meadowood and Fairway Heights.

Extend sewer lines to serve the largely undeveloped area bounded by the planning area boundary on the northeast, the SAL railroad tracks on the northwest, the creek which borders Gilliatt's Greenhouses on the west, E. Marion Street on the south, and N. C. 150 on the east (including a line along N. C. 150).

Extend sewer lines to serve Allendale Subdivision and surrounding areas to the east of Fallston Road, including homes along Airport Road where it parallels the SAL railroad tracks.

Extend sewer lines to serve the undeveloped area bounded by Airport Road on the northeast, Blanton Drive and a creek on the west and the SAL railroad tracks on the southeast.

Extend the existing outfall which parallels Northwood Drive on up to Lithia Springs Road -- to serve homes along the southernmost portion of Lithia Springs Road as well as those along the easternmost portion of Ross Grove Road.

Extend an outfall up the creek which lies just east of N. Lafayette Street Extension as far north as Ross Grove Road.

Extend sewer lines to serve at least the eastern portion of the undeveloped area bounded by S. R. 1851 and a creek on the north, First Broad River on the west, Lee Street, Hendricks and Metcalf Roads and the creek on the south and east.

)



# EXISTING & PROPOSED SEWER LINES



SHELBY  
North Carolina



## LEGEND

- MAINS (8" OR MORE)
- LINES (LESS THAN 8")
- WASTE DRAINAGE AREAS
- POTENTIAL SERVICE AREAS
- PROPOSED LINES
- EXISTING PUMP STATION



## SANITATION SERVICE

Sanitation service is provided to Shelby residences on a twice weekly basis. There are five sanitation routes in residential areas. Each of them takes four men, including the driver, per truck. Seven load packers are presently utilized and cans are picked up in the back of each home. About 1,100 pickups are made each week by each truck under the present system. A so-called "garbage train" arrangement is used whereby feeder trucks take loads to a "master truck" so that only the master truck goes to the dump. Pickups in business and industrial areas are on a daily or more often basis. Collections of leaves and limbs are picked up by a city flatbed truck; however, when private tree and landscaping companies do not dispose of their own cuttings, it puts a severe strain on the city's crews and equipment.

The present city dump has just about reached its capacity. Plans are being made to provide a new sanitary land fill which may possibly be developed on a portion of the acreage on which the new sewage treatment plant is being built. This tract, if acceptable, should be usable for at least ten years if layers of sanitary refuse and dirt are carefully compacted. It is recommended, however, that several potential land fill sites be explored prior to making any definite selection as extreme care must be taken in any site selection to protect other uses, both existing and potential, in the area.

## STREET SYSTEM

The construction and maintenance of streets and alleys has been treated as a municipal function for as long as there have been municipalities. Although county, state and national agencies have a lot to do with routing, financing and maintaining given streets, the bulk of any municipality's street system is a purely local responsibility.





## Analysis and Recommendations

The Shelby Land Use Survey and Development Plan reported that the city had, at the end of 1963, almost 79 miles of paved streets -- of which 59.5 miles were city-maintained and 19.48 miles were State-maintained. Powell Bill street data for July, 1965, shows 4.87 miles of unsurfaced streets, 2.35 miles of soil and gravel streets, and 0.66 miles of non-conforming paved streets. The total, then, was 86.86 miles with almost 91 per cent paved. This is a good percentage when considered in the aggregate. However, paving is not the only factor which must be considered in evaluating street conditions; width of streets is equally important. Of course, the 0.66 miles of non-conforming paved streets embraces the narrowest of Shelby's paved streets -- which are little more than lanes. There are also 59 miles of paved streets which have less than 26 feet of travelway. These streets, by modern standards, should also be considered substandard. Shelby's Subdivision Regulations require a minimum pavement width (back to back of curb) of not less than 31 feet. This is based on the need for two travel lanes of not less than 11 feet each, one foot for curbing and eight feet for parallel parking on one side of the street. If no parking is allowed on 26-foot streets (e.g., in residential areas) this width would be sufficient to handle the traffic flow. Map 4 shows 1963 street conditions -- emphasizing substandard paving and/or width. Some of them may never require more than 26 feet of pavement while others are already overburdened. In addition to these overburdened minor streets there are many miles of major streets which need to be widened in order to expedite present traffic flow. It should be pointed out that the term "major streets" is not meant to connote a uniformly wide system of expressways and connectors. Many so-called "major streets" are those which traverse enough of the town's area (without jogs and sharp turns) to be considered "through streets" -- as opposed to "minor streets"



which serve only a limited area. Furthermore, it should be cautioned that the determination as to which major streets have inadequate widths to accommodate expected 1970 or 1980 traffic demands is not based on a detailed origin and destination study. This study remains to be done.

A third factor of importance in evaluating the adequacy of Shelby's streets is their functional efficiency. That is, do they help circulate traffic by the shortest and best routes obtainable? Can people get where they want to go with a minimum of detouring? This factor was treated in some detail in the Land Development Plan under the headings of "Transportation Land Use" in Chapter III, and "Sketch Thoroughfare Plan" in Chapter VI. Hence, it will be appropriate here to set forth a revised listing of those projects which seem to be of the highest priority. These are:

1. Extend Grover Street westward to connect with Lee Street (via "Jamestown"); also widen Grover Street between First Street and Fallston Road.
2. Connect McGowan Road with U. S. 74 via Grove Street; also connect Eaves Road with Grove Street and improve the latter.
3. Improve Gidney Street from DeKalb Street to McGowan Road.
4. Widen Sumter Street between Morgan and DeKalb Streets and widen Morgan Street between Sumter and Graham Streets.
5. Widen Suttle Street between Carolina and Belvedere Avenues and widen Sumter Street between DeKalb and Suttle Streets.
6. Extend Sumter Street westward to U. S. 74; also extend W. Graham Street into Warren Street.
7. Connect Mark and Lowery Streets; also extend Hampton Street southward to Dellinger Street.
8. Extend Charles Road southward from Dellinger Road to an existing street in Brittain Village called "Charles Road Extension."



9. Pave the balance of Lackey Street Extension and improve Broad, Shannonhouse, Bridges and Patterson Streets.
10. Connect S. DeKalb Street with Morgan Street and bring Cameron Street into the same intersection; also connect Cameron Street with Dellinger Street more directly and improve both.
11. Extend Grover Street eastward to Airport Road; Also connect Airport Road with N. C. 150.
12. Extend Fallston Road southward to N. Poston Street and improve the latter on down to E. Marion Street.
13. Extend Meadowbrook Road eastward to Country Club Road.
14. Connect Kings Road with Suttle Street by paralleling the creek.
15. Extend DeKalb Street northward from Sumter Street to East Street and widen DeKalb Street from East Street to Grover Street.
16. Extend Elm Street eastward to Gidney Street.
17. Extend Hampton Street northward to Thompson Street and widen the latter street between Warren and Sumter Streets.
18. Extend Ware Street northward to the intersection of Lee Street and Hendricks Road.
19. Extend Hendricks Road northward to S. R. 1851, thence eastward to Metcalf Road.
20. Extend Lee Street westward along the railroad tracks from N. C. 226 to a point just north of Ora Mill Village.
21. Connect Grove Street and Country Club Road via the creek valley.
22. Connect Cameron Street with Eaves Road.
23. Connect S. R. 1926 in Cleveland Springs Estates with N. C. 150.
24. Connect Kings Road with both Windsor Drive and Gidney Street.





# STREET SYSTEM

SHELBY

North Carolina



## LEGEND

- STATE MAINTAINED
- CITY MAINTAINED
- SOIL OR GRAVEL
- UNSURFACED
- = ALL OTHER STREETS SURFACED





# SUB-STANDARD STREETS

SHELBY  
North Carolina



## LEGEND

- LESS THAN 26' OF PAVEMENT WIDTH
- UNSURFACED STREETS WITH ADEQUATE ROADWAY
- SUBSTANDARD AS TO BOTH WIDTH AND PAVEMENT



## Maintenance

Street maintenance is the responsibility of the Superintendent of Public Works. He has a 56-man staff, of which 17 devote their full time attending to street maintenance. The tasks which are the special province of the street department are the grading and/or gravelling of unpaved street, patching (with plant mix) city-maintained paved streets, cleaning streets and culverts of debris (as after storms), cleaning the streets by watering and/or sweeping, removing snow and ice, and so forth. The street department is also responsible for sidewalk construction in Shelby. An excellent job is being done at present with regard to street maintenance. However, it is recommended that rights-of-way and petitions be obtained for the improvement of streets which are now substandard and that an ordinance be passed which will make it possible to clear the streets (of parked cars) whenever it is necessary to clean them.

The city's assessment policies are not entirely satisfactory, but little can be done about them without obtaining special legislation from the State Legislature. For example, the assessment of the entire frontage on the side street of a corner lot does not seem equitable. The person who owns the corner lot and who ordinarily has a paved street in front of his house is not overly anxious to pay a double or triple assessment for the nearly exclusive benefit of property owners along the side streets. Perhaps something can be done to alleviate this impasse; for example, he could be assessed for one-half of the running footage along the side street, but not exceeding a certain amount of footage.

The subdivision regulations are having a very salutary effect on the street maintenance problem because they require that new streets be built according to high standards. High quality streets, though they may be wider, will result in a savings to the city over a period of time. The city has a right





to expect additions to its circulation pattern to be functional and attractive. The subdivision regulations mention sidewalks and crosswalks (for excessively long blocks), but these are only conditionally required. The Planning Board and the City Engineer decide where these facilities should be. More sidewalks are presently needed in the vicinity of certain schools. For example: there is a need for a sidewalk on the north side of Cleveland Training School and at Graham School there is a gap in sidewalk continuity along the north side of Warren Street. The construction costs for these two projects could be covered in one year's budget.

#### WATER SERVICE

A water distribution system must provide adequate quantity and pressure. The supply must be potable, safe, clear and preferably soft and must have adequate pressure and supply for fire fighting needs. Capacity must be equal to all water requirements without serious interruption of service pressures.

In 1956 the Pitometer Associates completed an engineering study of the water distribution system of Shelby. The resultant Pitometer Plan has been the basis for developing Shelby's water system since that date. Again, in 1965, Shelby contracted with the Pitometer Associates for another water distribution study. This was done for the purpose of making recommendations, general plans and specifications for necessary extensions and reinforcements to meet present needs and future requirements until 1980. Much of the information in this section of the Community Facilities Plan was part of that study.



## Analysis

Since the Pitometer survey in 1956 the number of water subscribers has increased by 31 per cent from 5,050 to 6,065. The distribution system has increased by 48 per cent, from 67 miles to 99 miles of main. These increases have occurred during the period from March 1956 to March 1965. Also, a new 16-inch main was installed from the filtration plant to the Pittsburgh Plate Glass plant and included a booster station and an elevated tank of one hundred thousand gallons capacity located at its far end. The capacity of the clear well at the filtration plant was increased from 4 mg to 6 mg. An additional raw water reservoir, Number 3, with a capacity of 6 mg was constructed to the west of, and contiguous to, the Number 2 raw water reservoir. During the course of the present survey new raw water intake facilities, including a pumping station and a 24-inch force main, were under construction just downstream from the existing raw water intake on the First Broad River, and a 12-inch bypass main around the 24-inch high pressure main at the filtration plant was in the planning stage.

The ratio of maximum to average daily consumption varied from a high of 208 per cent in 1927 to a low of 134 per cent in 1943. The average daily per capita consumption in 1927 was 78 gallons and it has increased steadily to 160 gallons in 1964. The Pitometer Plan, using an estimated population to be supplied of 30,000 and a per capita consumption of 175 gallons per day (GPD), estimated the 1980 average daily consumption at 5.25 million gallons. Also, based on a ratio of maximum to average daily consumption of 160 per cent, they estimated the maximum daily consumption in 1980 to be at the rate of 8.4 mg. The total requirement for the system is the sum of the maximum daily consumption and the maximum daily fire demand. The total water requirement in 1980 is estimated as follows:



Probable Average Daily Consumption	5,250,000 gpd
Probable Maximum Daily Consumption	8,400,000 gpd
Probable Maximum Hourly Consumption	12,600,000 gpd
Fire Requirements, 5,000 gpm	7,200,000 gpd
Total Maximum Daily and Fire Requirements	15,600,000 gpd

For a population of 26,000 (Pitometer's estimated 1980 Shelby city population) the National Board of Fire Underwriters recommends a fire flow of somewhat less than 5,000 gallons per minute (gpm) and for a population of 30,000 (Pitometer's estimated 1980 population for the area supplied) a flow of somewhat over 5,000 gpm., both available with a minimum residual pressure of 20 pounds for a duration of ten hours. These amounts of water should be available on days of maximum consumption. Pitometer's design for 1980 has been based on a total fire flow of 5,000 gpm, or 7.2 mgd in addition to the maximum daily consumption.

Present storage in the system amounts to 7.1 million gallons; 6.0 mg at the filter plant clear well, 0.5 mg at each of the two elevated tanks in the city and 0.1 mg at the Pittsburgh Plate Glass elevated tank. The present capacity of the filter plant is 6.0 mgd, and by overloading it by 25 per cent the plant could deliver 37.5 mg in a five-day period. Adding to this the 7.1 mg in storage the total amount available for delivery to the system would be 44.6 mg. However, the existing pumps at the filter plant could probably not deliver more than 33.0 mg, if operated in unison, leaving a deficiency of almost 5.0 mg.

The Pitometer Plan does not consider this a serious deficiency since it is most unlikely that a serious break in one of the transmission mains would take more than two or three days to repair. Although their calculations show that no additional storage will be needed during the present design period, it is not too early for the city to consider





the acquisition of a site for the construction of an additional elevated tank after 1980. Pitometer's Plan indicates that an ideal location for this tank would be just to the west of the County Home. It was also recommended that the city give consideration to the purchase of additional pumping equipment. The capacity of the new pump, or pumps, should be equal to the average day's consumption in 1980 -- 5.25 million gallons.

### Recommendations

The Plan states that one of the outstanding weaknesses of the Shelby distribution system is the inordinate amount of six inch mains installed, particularly in new developments. It was recommended that the city accept no mains smaller than eight inches through the main streets of new developments and, where such developments are far removed from existing distribution facilities, nothing smaller than twelve inches. Minimum water line size requirements, based on national standards, are for lines not less than six inches in diameter for fire hydrant connections. Of Shelby's 99 miles of mains, approximately eight miles are four inches in diameter and there is an indeterminate mileage of two-inch lines. In new construction eight-inch mains should be used where deadends and poor layout are likely to exist for some time. In high-value districts the minimum recommended size is eight-inch with cross-connecting mains every 600 feet. Twelve-inch mains should be used on all principal streets and for all long lines not cross-connected at frequent intervals. (A six-inch main carries more than twice the volume of water of a four-inch main and costs about 10 per cent more to lay than a four-inch main. An eight-inch line, installed, costs less than 25 per cent more than a six-inch line and permits twice the flow at the same friction loss.)

Also, wherever possible, deadends should be eliminated. Looping of feeders makes it possible to supply every point of the loop system from two directions, thereby substantially doubling capacity and gaining in reliability. (Map 5 shows the existing and proposed water line system.)



The following recommendations are based on the Pitometer survey:

FOR CONSTRUCTION - IMMEDIATE TO 1972		Size <u>Inches</u>
From filter plant to Mark Street, passing in vicinity of Springdale, Carl Lane, and underdeveloped land to east of Charles Road; in Mark, Lowery and Shannonhouse Streets to Lafayette; in Lafayette to a point opposite the west end of Textile Street, thence to Textile at Morgan		16
East Dixon Boulevard, from S. Washington to East Main		12
W. Graham, from Clyde to Clegg; Clegg and Eastview, from W. Graham to Lowery		12
Sumter, from N. DeKalb to Clyde		12
Carolina, from Sumter to Buffalo; Buffalo, from Carolina to end of existing 12-inch main		12
Gidney, from S. DeKalb to McGowan		8
Country Club Circle W., from E. Marion to Robinwood; Undeveloped land, from Country Club Circle W. at Robinwood to E. Main; E. Main, from Mountain Lane to Highway 74		12
E. Marion, from Gilliat to Country Club Circle W.		12
Montrose Extension, from end of existing 6-inch main to proposed 12 inch main		8
Morton, from S. Morgan to Eaves Road; Eaves Road, from Washington Heights to Earl Road; Grove, from Earl Road to Highway 74		12
Highway 74A, from Highway 180 to Wilson Farm Road		12
Highway 1827, from N. Lafayette Extension to Seymour; Seymour, from Highway 1827 to Manford; Blanton Drive, from Manford to Buffalo; Buffalo, from Blanton Drive to Julius		8



S. Morgan, From Mill to Textile Extension; McClurd, from Live Oak to S. Morgan	8
W. Elm, from Charles to end of existing 8-inch main at Dicey Mill	8
Suttle, from Carolina to E. Marion; E. Marion, from Suttle to Gilliatt	8
W. Dixon (N), from proposed 16-inch main to Hampton	8
Billie Lee and Brookside, from E. Graham to Grice; also Grice Extension from Brookside to Churchill	8
King's Road from end of existing 6-inch line to Country Club Road and Country Club Road from King's Road to Debra Circle	8
Brookwood Extension from Circle View to Elizabeth	8

The following recommendations were made after careful study of Shelby's potential water service area by City and Division of Community Planning personnel -- they are not Pitometer's recommendations. The proposals are not of an immediate need nature; however, they are based on the foreseeable growth pattern for the next 20 years. Moreover, it should not be assumed that these projects will be financed wholly, or in some cases even partially, by the City. As in the case of sewer line extensions to newly subdivided areas, the subdivider's initiative will be paramount.

1. Extend water lines to serve possible new subdivisions between Lackey Street Extension (as if extended to the creek which lies just north of W. Elm Street Extension) and First Broad River -- also to homes along Wesson Road from the new city limits to said river.
2. Extend water lines to serve likely new subdivisions between Charles Road and the creek which parallels S. R. 1220.
3. Extend water lines to serve the largely undeveloped area bounded by Morrison Street and a creek on the north, the creek which parallels S. R. 1220 on the west, Dellinger Street on the south, and N. C. 18 and Dodd Street on the east.





4. Extend water lines to serve the largely undeveloped area bounded by Dellinger Street and the creek which parallels S. R. 1220 on the north and west, Brittain Village on the south and N. C. 18 on the east, including a line along Dellinger Street.
5. Extend a water line out N. C. 18 from Zoar School Road to Norris Packing Company to serve development along this highway not presently served by water line which goes to the new sewage treatment plant.
6. Extend water lines to serve homes along Lily and Cameron Streets.
7. Extend water lines to serve present and potential homes in the Melrose Drive area.
8. Extend water line southward along S. Morgan Street as far as there is development; also extend water lines to the undeveloped area south of Whitener Street between S. Morgan Street and Hickory Creek.
9. Extend water lines to serve likely new subdivisions in the area bounded by Earl Road on the north, Eaves Road on the west, a creek on the south, and Sulphur Springs Road on the east.
10. Extend water lines to serve the largely undeveloped area bounded by U. S. 74 on the north, S. R. 1213 and Sulphur Springs Road on the west, and a creek and the planning area boundary on the south and east.
11. Extend water line out Kings Road to said road's intersection with S. R. 1213 and loop it (via U. S. 74) into the 12-inch main along the north side of U. S. 74 which will, by then, terminate east of the intersection of U. S. 74 and E. Main Street.
12. Extend the 12-inch E. Marion Street water main which is due to terminate at Wilson Farm Road southeastward to the County Home (where a new elevated storage tank will be needed).
13. Continue 12-inch line down N. C. 180 to its intersection with U. S. 74, thence back westward to the point on U. S. 74 where the previously-described Kings Road line will meet the Bypass.



14. Extend water lines to serve the undeveloped area crossed by the 12-inch water main which is due to run from Robinwood Drive to E. Main Street.
15. Extend branch lines from the proposed 8-inch Gidney Street main to serve undeveloped areas on both sides of said street.
16. Extend a water main up N. C. 180 from U. S. 74A to N. C. 150 to serve present and potential development along this highway.
17. Extend water lines to serve the largely undeveloped area bounded by the planning area boundary on the northeast, the SAL railroad tracks on the northwest, the creek bordering Gilliat's Greenhouses on the west, E. Marion Street on the south, and N. C. 150 on the east.
18. Extend water lines to serve the largely undeveloped area bounded by a creek just northeast of Airport Road on the northeast, Blanton Drive and a creek on the west, and the SAL railroad tracks on the southeast.
19. Extend water lines to serve the Allendale Subdivision and surrounding areas to the east of Fallston Road -- including homes along Airport Road where it parallels the SAL railroad tracks.
20. Loop the Airport Road water line into an extension of the Fallston Road line via N. C. 180.
21. Extend water lines to serve likely new subdivisions on both sides of S. R. 1847 and the southernmost portion of Lithia Springs Road as well as the undeveloped area between Ross Grove Road and the new northside school.
22. Extend water lines to serve the undeveloped area bounded by S. R. 1851 and a creek on the northwest, Lee Street, Hendricks Road and the Southern Railroad tracks on the south, and Metcalf Road and a creek on the east.
23. Extend water lines to serve the undeveloped area bounded by Metcalf Road on the northeast, First Broad River on the west and S. R. 1851 and a creek on the south and east.

(Continued p. 32)



# EXISTING & PROPOSED WATER LINES



SHELBY  
North Carolina



## LEGEND

- WATER LINES 4" & 6"
- WATER LINES 8" & 10"
- WATER LINES 12" & 16"
- POTENTIAL SERVICE AREAS
- PROPOSED LINES





24. Extend a water main northward from Dover Mill Village along N. C. 226 to the planning area boundary to serve homes along the highway and likely new subdivisions in the area between N. C. 226 and First Broad River.
25. Extend water lines to serve the proposed Blanton Subdivision west of the First Broad River and south of U. S. 74.

## CEMETERIES

The provision of burial plots and their maintenance is not considered a municipal responsibility in all places. However, it has been treated as such in Shelby and this token of respect for the builders of the community seems entirely appropriate.

The City of Shelby administers and maintains three cemeteries -- of which two are for non-whites. The largest and oldest municipal cemetery is the Sunset Cemetery which occupies about 43 acres. Records indicate that it was in use prior to 1911. A small (1.5-acre) cemetery for non-whites on Lineberger Street near the railroad tracks is now full. This necessitated the development of the Webb Memorial Cemetery on Eaves Road in 1942. It contains about 27 acres and should be adequate to serve the non-white populace for many years to come.

After completion of the expansion program which is presently contemplated for the Sunset Cemetery it should serve the needs of the white populace for at least 20 years. The expansion will be towards the north and west across a small creek where there are now 25 undeveloped acres which are municipally owned. The Webb Memorial Cemetery also has approximately 25 undeveloped acres remaining. The majority of plots cost \$50 in the Sunset Cemetery and \$25 in Webb Memorial. Three men maintain the grounds on a full-time



basis. This work force seems to be adequate to maintain both cemeteries at the proper level of attractiveness.

This report makes no special recommendations pertaining to cemetery service. However, the prices charged for cemetery plots are perhaps too low. Private cemeteries offering perpetual care charge between \$100 and \$200 per space. The City may wish to revise its prices somewhat in order to place more of the burden of caring for the cemetery on those who benefit most directly from it. Private memorial parks should be encouraged since they are absorbing expenses that are now, of necessity, included in the city budget. Private cemeteries and church cemeteries should observe reasonable setback requirements and should have convenient access and parking facilities.

## PUBLIC SAFETY

### FIRE DEPARTMENT

Fire protection is one of the most elementary and necessary functions of local government. The citizens of Shelby have enjoyed a high level of protection from the ravages of uncontrolled conflagrations since about the turn of the century. The present insurance rating is NB-6. The fire department, housed in the City Hall, is convenient to all parts of the city.

### Inventory and Analysis

The motorized equipment which is available for use includes:

Two	1947 Mack pumpers, 750 gallon capacity each
One	1954 American LaFrance pumper, 750 gallon capacity
One	1959 American LaFrance aerial ladder truck
One	1965 Chevrolet panel salvage truck
One	1958 Ford, 4-door sedan, chief's car



The personnel complement of the Fire Department includes a chief and an assistant chief, 17 full-time fire fighters (6 per shift) and 12 volunteers, though annual and sick leave affect the number in the station. The North Carolina Board of Fire Underwriters recommended (after an evaluation of the department on April 24-25, 1962) that the department have 20 full-time fire fighters -- exclusive of chief officers. It also recommended that more volunteers be retained. In-service training has recently been improved.

The North Carolina Board of Fire Underwriters is reasonably satisfied with present equipment, but city growth will necessitate the purchase of additional equipment in years to come which cannot possibly be housed in the present fire station. The only alternatives would seem to be to build a new central fire station, convert an existing building to this use, or to establish one or more substations. This latter alternative does not seem feasible for many years to come since the circular boundaries and near-concentric development of the city do not lend themselves to the substation approach. There are no exceedingly long runs at present and the high-value business and industrial districts are adequately served. (Map 6) It is therefore apparent that the present central station should be made to serve as long as it can -- after which a substation should be built if and when the city becomes disproportionately extended in any given sector. The most likely annexations which would radically transform the shape of the city (and create overly long runs from the central station) would be to the south and the northeast of the present city limits.





HIGH VALUE AREAS  
BUSINESS & INDUSTRIAL

SHELBY  
North Carolina





## Recommendations

Shelby needs to adopt an updated fire prevention code. This action will not only meet the requirements of the Workable Program for Community Improvement and the North Carolina Board of Fire Underwriters, it will give the department a surer footing for its inspection program. The explosion of a water heater in Shelby recently was an object lesson in the importance of having and enforcing good fire as well as plumbing and other structural codes.

Also related to the matter of preventive measures to forestall fires is the problem of inadequate water line sizes or pressure, deadends, distance from hydrants, and so forth. Shelby presently has approximately 42,200 feet of water lines which are smaller than 6 inches in size. It also has approximately 83 deadends, plus many areas where structures are more than 500 feet from a hydrant. These deficiencies in the water system should be corrected as quickly as possible. Perhaps a program of replacing a certain footage of undersize lines, looping deadends and adding hydrants each year would be feasible. It is certainly recommended. It is also recommended that Shelby add three full-time firemen to the force.

## CLEVELAND COUNTY VOLUNTEER FIRE DEPARTMENT

The Gardner Fire District, which is served by the Cleveland County Volunteer Fire Department, was created in 1958. The district extends four miles in all directions from the fire station which is located in downtown Shelby. It should be noted, however, that the four-mile boundary is measured along highways and not "as the crow flies." The service area comprises everything which lies outside of Shelby's corporate limits -- yet within the four-mile highway radius. The fire district even extends into Rippy's Township to the south. The insurance rating which applies to the district is 9A.



There are 21 volunteer firemen including the chief and assistant chief. Fire alarms are phoned into the Shelby Fire Department, thence to the wives of three of the volunteers who each notify seven men by phone. There are about 300 calls per year; the busiest time of the year is during the cotton ginning season. There are no fees or dues, but donations are accepted and the unit engages in various fund-raising projects. The County contributes \$100 per month to the department (which hardly covers the cost of gasoline) and it buys all necessary insurance on men and vehicles. There should be a tax levy of approximately ten cents per \$100 of assessed valuation within the fire district to provide financial support for the department.

The vehicles and equipment presently on hand include:

One	1944 International 350 gpm pumper
One	1954 International 600 gpm pumper
One	1957 Chevrolet tanker, 825 gals.
One	1965 Chevrolet tanker, 1,000 gals.
One	1952 White tanker, 2,500 gals.
One	1954 Chevrolet light truck (generator)
One	1953 Dodge weapons carrier
One	1951 Dodge weapons carrier

The 1944 pumper needs replacement immediately, whereas the other trucks should serve through 1970. More space is desperately needed. It is presently necessary to store several vehicles behind a roof support in such a way that they cannot be speedily removed. The big 2,500 gallon tanker also lacks maneuvering space. The best solution would be to expand into the brick building which adjoins the present station to the north. Hopefully, this can be done very soon. The station's downtown location is convenient to the men and the circular area served.





## POLICE DEPARTMENT

One of the foremost functions of municipal government is the maintenance of law and order. This function is being discharged in an efficient and effective manner by the Shelby Police Department.

### Inventory and Analysis

The Shelby Police Department has a 27-man staff at present. Included in the total are a meter-watcher, a meter mechanic, and a traffic signs and markings specialist. Not included in the total are six female school crossing guards who work only three hours a day and who may exercise authority only during the time they are on duty. A detective division has been activated within the department. This division requires two men and one car. Rookie policemen are trained by being assigned to work with seasoned policemen for a six-months probation period. Recruitment requirements are very strict. Police officers are sent to special schools conducted at the University of North Carolina's Institute of Government at Chapel Hill and other places from time to time. Firearms training and practice is presently obtained at the National Guard Armory and at a local gun club. However, the policemen are planning to construct a shooting range of their own.

The City Hall quarters of the police department are adequate for the time being -- due partially to an addition made in 1963. However, it may be necessary in ten years or so to construct a separate building for the police department. This would help alleviate the parking problem around the City Hall. It also seems apparent that the police department or some of the utility departments will ultimately have to be housed outside the City Hall. A new central station police radio is badly needed. There are no incarceration facilities at the City Hall headquarters, so prisoners are kept at the County Jail (quite ancient) which is only two blocks away.



The motor pool now includes five patrol cars (including the chief's), two new solo motorcycles and two three-wheel motorcycles. Three of the patrol cars are cruising at all times. The two solo motorcycles are used mainly on escort duty and traffic control. One of the three-wheel motorcycles is used by the meter-watcher, and the other by the meter mechanic. The former has a radio; the latter does not. Patrol cars and car radios are each being replaced at the rate of two per year.

The approved national standard for persons-per-patrolman is 500. Shelby, assuming that its present population is 18,000, has 643 persons per policeman (counting the full authorized strength of the police force) or 857 persons-per-patrolman (counting only the patrolmen -- not desk sergeants, traffic specialists, etc.). Hence, Shelby does not rank very well in comparison to the national standard. In order to meet the approved standard Shelby would have to hire at least eight more patrolmen. As the population of Shelby grows toward the 19,617 which is projected for 1970, additional policemen will be required as will additional cruisers and radios.

#### SHERIFF'S DEPARTMENT

The Cleveland County Sheriff's Department has a staff of 11 deputies and two desk sergeants (who operate the two-way radios). The deputies use their own automobiles for which they receive compensation of \$160 monthly. Present quarters and parking facilities are adequate. In addition, the State Bureau of Investigation has office space in the same building housing the Sheriff's Office. The jail, constructed in 1911, houses city and federal prisoners, and is often overcrowded. Construction of a new jail should receive top priority.





## CIVIL DEFENSE

Civil defense operations are now housed in the Old American Legion Hut which was constructed in 1935. The staff consists of a director and his secretary. A 200 bed portable hospital, stored in the basement, will be set up in the High School in case of emergency. A communications operations center will be installed and protected by six inches of concrete. There are 32 uniformed Civil Defense "policemen" who receive periodic training and who assist in patrolling at ball games, parades, and other events.

## RESCUE SQUAD

The Shelby Rescue Squad, organized in 1959, performs an extremely valuable service to the people of Shelby and environs. It rescues and resuscitates people, provides ambulance service, searches for lost persons, etc. An average of about three calls per week is answered. The Rescue Squad presently has the following equipment:

One	1966 Pontiac ambulance
One	1964 Pontiac ambulance (oxygen-equipped)
One	1958 Chevrolet 3/4-ton panel truck
One	1953 Ford van truck (with 5 kw generator)
One	1948 Dodge weapons carrier
Two	Aluminum boats (with one trailer)

One ambulance is traded each year. The panel and van trucks and the weapons carrier are not used as often as the ambulance, so they may be usable for several more years. Communications are mainly by telephone -- with some ham radios.

The Rescue Squad, in March 1965, occupied a new 5,000 square foot headquarters and storage building on Marion Street directly across from the entrance to City Park. This facility, which has 16 paved parking spaces, should be adequate for the Squad's purposes for the foreseeable future.





The Squad presently has 27 members, and its ultimate membership should never exceed 35. No recommendations are in order with regard to personnel or training.

## SOCIAL AND CULTURAL

### SCHOOLS

Schools are among the most important community facilities provided within any city. Shelby's schools are critical factors in determining the quality of life, both economic and social, which will prevail in future years. If the schools are good, the general tenor of cultural activities in the city should be good. Furthermore, new industries of the most desirable types will, in all probability, be attracted. If the schools are overcrowded and otherwise substandard there may well be undesirable social and economical ramifications.

#### Inventory and Analysis

The schools presently included in the Shelby City School District are ten in number -- with one under construction. There is a white senior high school, a white junior high school and six white elementary schools plus a non-white union school (grades 1-12) and a second non-white elementary school. Data on these ten schools (and the new northside school which is under construction) is shown in Table 4.

It will be noted from the table that Shelby's schools fall conveniently into two categories: the new or fairly new plants (Shelby Senior High, part of the Junior High, Graham, Marion and Hunter Schools) and the older, functionally obsolete plants (part of the Junior High, Cleveland Training, Oak, Morgan, Washington and Jefferson Schools). In the county-wide school survey completed during the Summer of 1964 by the School Planning



Division of the North Carolina Department of Public Instruction it was recommended that the Oak, Morgan, Washington and Jefferson Schools be abandoned in the long-range program. The Junior High and Cleveland Training will need to be relieved of their overloads either by transferring students or by plant expansion.

Prior to any further comment regarding future abandonments or expansions, future enrollment projects should be analyzed. There are three valid ways that this can be done. One way is to merely project the total future enrollment for both elementary and secondary schools, taken singly or together, for the entire school district without reference to school service areas. This can be done on a "straight line" basis, i.e., it can be assumed that if school enrollment has been increasing at a certain consistent rate over a period of time it will continue to increase at that rate in the future. This technique was essentially the one used in arriving at total future enrollment figures for 1970 in the aforementioned School Survey. The projected total for that year is 4,641. (Note that this is less than the 1965 enrollment.) The breakdown between elementary and secondary students for the target year is:

Elementary	2,567
Secondary	2,064

Prior to making specific recommendations it should be noted that enrollment projections as computed by the Division of Community Planning are substantially larger than those estimated by the School Survey. However, the resulting recommendations are basically the same.

The foregoing projections are indeed useful to the School Board and school administrators from the standpoint of general planning and budgeting, but they do not provide sufficient guide-lines for the delineation of school service areas or a determination of the need for new school plants in particular quadrants of the city. The statistical material contained in the Appendix should do this.





TABLE 4

## SHELBY SCHOOL DATA

Name (Grades)	Date of Construc- tion	Number Class- rooms	Design Cap.	Enroll- ment Sept. '65	Library	Audito- rium	Cafe- teria
Senior High (10-12)	1960-61	34	1,000	910	Yes	Yes	Yes
Junior High (7-9)	1906 1936-37	42	1,050	1,059	Yes	Yes	Yes
Graham Elem. (1-5)	1956	20	540	530	Yes	Yes	Yes
Oak Elem. (6th Grade)	1927 1951	11	300	335	Yes	Yes	Yes
Morgan Elem. (1-5)	1926, 1948 1954-55	13	300	301	Yes	Yes	Yes
Marion Elem. (1-5)	1951 1954	18	540	493	Yes	Yes	Yes
Jefferson Elem. (1-5)	1926	8	240	200	Yes	Yes	Yes
Washington Elem. (1-5)	1926	6	180	125	Yes	Yes	Yes
Hunter Elem. (1-6)	1959 1961	7	210	189	Yes	Yes Multi-purpose	Yes
Cleveland Train. (1-6)	1924 1954	32	960	427*	Yes		Yes
Junior High	1960			180			
Senior High				148			
Northside Elem. (1-5)	1965	8	240	**	Yes	Yes Multi-purpose	Yes
Total		199	5,560	4,897			

Source: Shelby City School District Personnel

\*Includes 78 first graders who are now quartered in temporary classrooms at Holly Oak Park.

\*\*Unknown -- upon completion will relieve Cleveland Training School.

NOTE: In addition to the foregoing data regarding school plant adequacy, reference should be made to the Land Development Plan for information on school site adequacy. It was pointed out in the Land Development Plan that every school in the system with the exception of the Senior High and Graham School occupies an inadequate site. The most deficient sites are those of Cleveland Training and the Junior High, but the six elementary schools also lack sufficient recreation space. This space should certainly be provided in proximity to each site as soon as possible.





Also to be considered in the analysis are secondary school enrollment projections. There were 1,059 students attending the Junior High plus 180 Junior High students at Cleveland Training School in September, 1965. The breakdown between junior and senior high school students in 1965 was therefore 54 per cent junior and 46 per cent senior. Using this percentage breakdown and an estimate of dwelling unit saturation it is possible to estimate a maximum potential junior high school enrollment of 2,346 and a maximum potential senior high school enrollment of 2,080. This projection, obviously, is not geared to any specific future date; it merely assumes full development of the school district area at a logical density.

However, based on the likely total number of dwelling units for 1970 and 1980 (and keeping within the population projections previously described), it appears that there will be 1,515 junior high students and 1,343 senior high students by 1970. By the same token, there should be 1,700 junior high students and 1,507 senior high students by 1980. If these projections materialize there will definitely have to be some additions made to the existing Junior and Senior High plants. This should be relatively easy to do, site-wise, at the Senior High, but it will be difficult to expand the Junior High site. The logical area for expansion is the block between the old and new buildings. Then too, the old buildings will need to be replaced with modern facilities in the long-range program.

#### Recommendations

It seems clear from the projections that the Westside Tributary Area will generate more of a demand for seats by 1970 than Graham School can accommodate. (Its present capacity is 540 and its projected 1970 student load is 742.) The solution seems to be to utilize Oak School for the overflow



until it becomes totally unsatisfactory, then transfer some of the trans-bypass children to the new school which will someday be built in Brittain Village (assuming Charles Road is extended southward). A second alternative would be to build a new school in the area north of Lee Street. Incidentally, white sixth graders, all of whom now go to Oak School, and special education students (who are presently distributed between the various schools offering grades 1-5) were treated as though they all went to the school serving their neighborhood.

It would be inadvisable to add more than four more classrooms at Graham School since 600 students is the optimum load for an elementary school -- although such additions could easily be made from a site size standpoint. The expected 1970 student load of 428 at Morgan School will exceed its capacity by 128 students (or between 4 and 5 classrooms). Since it would not be practical to add to the old Morgan plant it is recommended that a new school be built in Brittain Village to replace Morgan School and accommodate new residential growth on the south side of the Bypass.

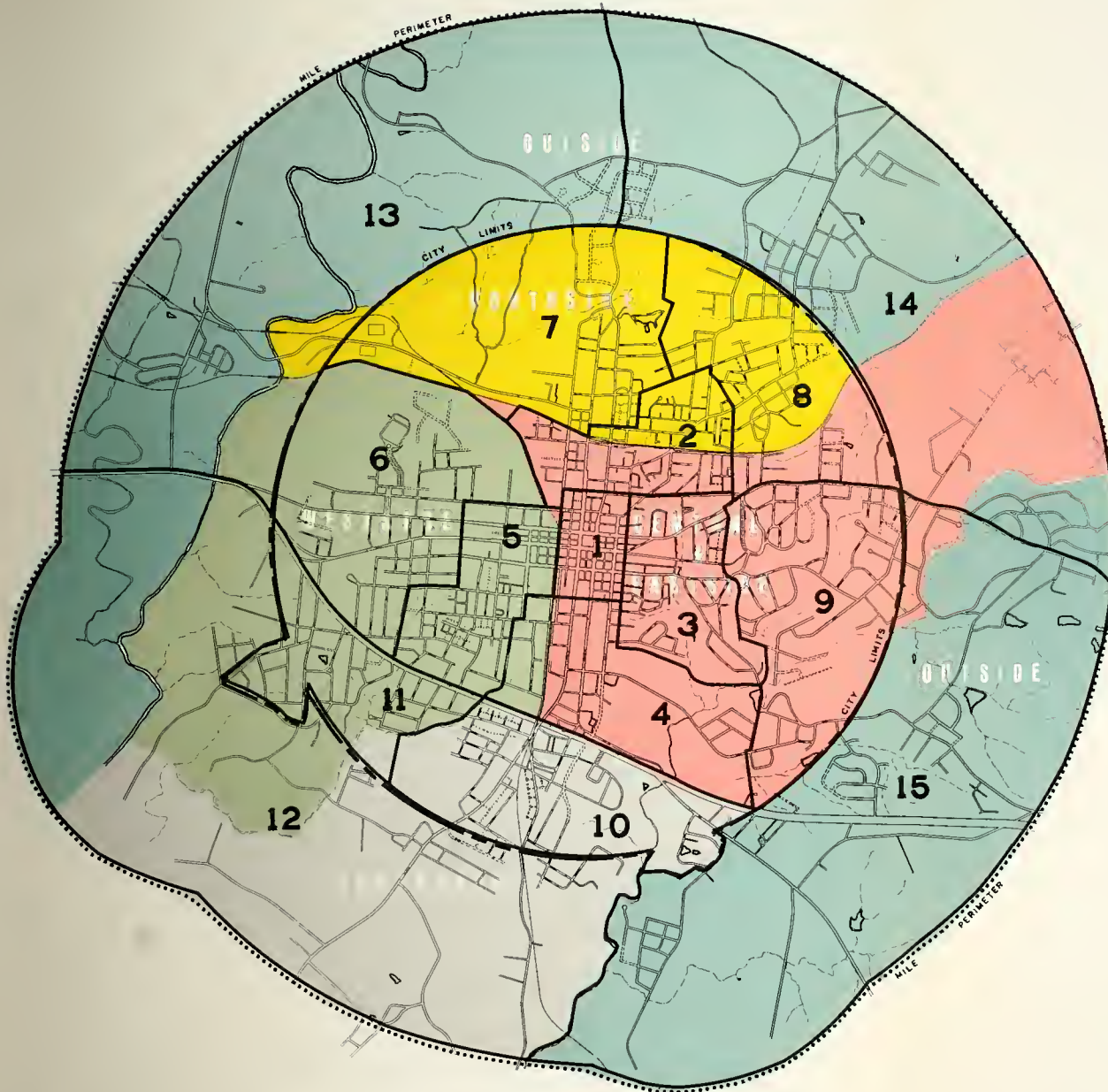
The Central and Eastside Tributary Area will generate a demand for at least 1,008 elementary seats by 1970. Marion and Hunter Schools, between them, can accommodate only 780 students, and it would be very inadvisable to add classrooms to either plant since they are on rather restricted sites. Hence, it is recommended that a new school be built in the vicinity of N. C. 150 (preferably between said highway and the Seaboard Airline Railroad tracks) by 1970. Marion School's apparent under-use (by three classrooms) will not persist as new homes are built in the highly desirable eastside area.





# STUDY AREAS & SCHOOL SERVICE AREAS

SHELBY  
North Carolina







The Northside Tributary Area, the largest one of all in terms of likely 1970 student load, should be well served after the new Northside School is completed. The three schools presently serving the area can accommodate approximately 1,100 students. However, Washington and Jefferson are both fairly old and have restricted sites. Cleveland Training School is extremely overcrowded, especially where recreation space and distinctive high school facilities are concerned. It is, therefore, recommended that the Cleveland Training and Jefferson Schools be administered jointly as an elementary school. Washington School should be abandoned as soon as possible. The Northside School can accommodate the remaining students in grades 1-6.

#### CLEVELAND COUNTY MEMORIAL LIBRARY

Shelby's first library was founded around 1909. Quarters were provided above businesses such as Smith's Drug Store. When the new City Hall was constructed in 1938 space was allocated for the library in the building's south wing. When, by 1963, the city needed the library space for other operations, the library was forced to move to a shopping center on East Marion Street. This location served for 18 months until there was a commercial demand for the space -- after which the library was moved to a building on Lineberger Street which was formerly a grocery store. This inelegant structure in the midst of an industrial district is the present location of the Shelby Main Library. There is also a non-white library called the Carver Branch.



## Inventory and Analysis

According to the librarian, the Shelby library, despite its many movings and its present inadequate quarters, has a higher turnover of books than most libraries in the State. This fact implies either that Shelbians are avid readers or that the book stock is inadequate. It might also be pointed out that 10,861 hold library cares (1,738 at the Carver Branch and 9,123 at the main library). The non-white branch library is housed in extremely inadequate quarters at the corner of Buffalo and Wilson Streets. Now that the "main" library is integrated there is really no reason for the separate existence of this branch. However, 21 per cent of library budget is still allotted to the Carver Branch -- which has very few patrons. This peculiar situation should be rectified whenever it becomes feasible to assemble all of the books in one place. This will not be possible until new quarters are provided. Hopefully, when the new post office is completed the library can acquire the old postal facilities. The main library had, on December 1, 1964, a total book stock of 26,141 volumes. This total book stock was inventoried thusly:

Adult fiction -- 8,048  
Adult non-fiction -- 6,500  
Juvenile fiction -- 7,538  
Juvenile non-fiction -- 4,055

The Carver Branch had a total book stock of 7,853, which was inventoried thusly:

Adult fiction -- 1,826  
Adult non-fiction -- 2,081  
Juvenile fiction -- 2,480  
Juvenile non-fiction -- 1,466

The total book stock for both libraries was 34,004; however, nearly one-half of the book stock is circulated by two bookmobiles in rural areas (which means that the residents of Shelby do not have access to these books). It therefore



becomes necessary to base the computation of books per capita on the population of Cleveland County minus Kings Mountain Township (which has separate library facilities). Based on the foregoing population figure, there is now 0.66 books per capita whereas the American Library Association recommends a minimum standard of two books per person. Obviously, the library's present book stock is inadequate although it has increased from 27,815 volumes and a books per capita figure of 0.54 in 1959.

Total circulation increased from 182,609 in 1959 to 241,480 in 1964. Again basing calculations on a population of 51,324 (the 1960 Census figure for Cleveland County less Kings Mountain Township), the circulation per capita has increased to 4.51 volumes per year from a 1959 total of 3.55 volumes. Bookmobile circulation increased from 102,630 in 1959 to 134,874 in 1964. There are two bookmobiles serving outlying locations at present, but another one, possibly two, will be needed if the library becomes more of a countywide (excepting Township #4, which includes Kings Mountain) service operation.

#### Recommendations

The most pressing need is a new library building. Without a modern facility, the level of service which can be offered is decidedly limited. Modern libraries typically house not only books, pamphlets and magazines, but phonograph records, tapes, films and other instructional and cultural aids. Specialization along technical, genealogical and other lines is also practiced at some libraries -- in addition to the standard separation of juvenile books. The library staff is doing the best they can with available resources, but greatly increased public support will be needed to achieve a full-service library of which the community can be proud.





It is recommended that library boosters investigate the possibility of obtaining the old post office building for the new library. Its institutional appearance makes it unsuitable for most business uses while its central location is ideal for library purposes. The only problem will be off-street parking but this should be remedied as additional off-street parking facilities are developed in the downtown area.

## PARKS AND RECREATION

The Shelby Land Use Survey and Development Plan reports that Shelby presently has 154 acres in parks and playgrounds, excluding school grounds. This park and playground system is of rather recent origin -- having been initiated in 1947. The first unit was City Park with its nine-hole golf course developed in 1948. The Holly Oak Park (a non-white facility) was developed in 1949-50. There are also two small city-owned playgrounds and four semi-public ones -- plus a teen canteen in Huxley Village Shopping Center. The North Lake Club is a semi-public dining and swimming facility. Just beyond the city limits to the east is the Cleveland Country Club. There are also other privately-owned and -operated recreation facilities.

### Inventory and Analysis

An inventory of the public and semi-public park and recreation acreage in Shelby, revised somewhat from the figures given in the Land Development Plan, and specifying activity options, follows:

City Park - (107 acres) on Sumter Street: Nine hole golf course, swimming pool, tennis courts, athletic fields, six lane bowling alley, gymnasium and auditorium, picnic grounds.



Holly Oak Park - (23 acres) on Holly Oak Avenue: Two lakes, swimming pool, club house, lighted ball park, athletic field and stadium.

Small playground (1 acre) on East Graham Street: Dirt surfaced playlot.

Small playground (2 acres) on Kings Road (near substation): Grassy playlot.

Optimist Club Ball Park (.75 acres) on Lackey Extension: Dirt surfaced ball diamond with some grassy areas.

Shelby Mills Ball Park (4 acres): Dirt surfaced ball diamond with no apparatus except a backstop.

Ester Mill Village Playground (1 acre): Grassy playlot surrounded by streets.

Playground on Buffalo Street (1 acre) corner of Julius Street: Grassy playlot with some apparatus. Church-owned.

North Lake Club (18 acres): Clubhouse and swimming pool.

Cleveland Country Club (75 acres): Clubhouse, swimming pool, tennis courts and 18-hole golf course.

The corrected total acreage in public or semi-public recreational use within the city limits is 178. The public facilities were formerly administered by a Parks and Recreation Board through an appointed recreation director, but this arrangement has been changed. The Parks and Recreation Board has become an advisory body rather than a statutory body. The recreation director is now hired by the city manager to serve as head of the city's Recreation Department. This will bring the recreation program directly under the city government's jurisdiction.

The most commonly-cited standard for park and recreation acreage is that used and promoted by the National Recreational Association. It was stated in the Land Use Survey and Development Plan that a city should have at least one acre in recreation use for each 100 persons. Using the estimated 18,000



population figure, Shelby needs a minimum of 180 acres in various recreational facilities. Since it has 178 acres which are at least nominally in such use, it appears that Shelby's facilities are not insufficient. However, when the distribution of recreational facilities is examined it becomes apparent that certain areas are better serviced than others.

(See Map 1.) The far western, far northern and southeastern parts of the city are better supplied than the higher density areas around the core of the city. The non-white sections are obviously in great need of additional playground space. (The new community center in the Antrum-Logan Public Housing Project will help somewhat.)

As with most cities there is a shortage of gymnasiums and meeting rooms -- places to hold large dances, tournaments, special interest club meetings, etc. The Armory could be considered a recreation facility for the public since it is often used for dances and exhibitions. The private, i.e., commercial, amusement facilities which are convenient to the citizens of Shelby include two indoor movie theaters, two drive-in theaters, one 24-lane bowling center, two putt-putt golf courses, one golf driving range, one roller skating rink, two billiard parlors, and one dance hall. This report has no specific recommendations concerning them. However, they should certainly be taken into consideration whenever the adequacy and scope of municipal facilities are evaluated.

### Recommendations

No specific park sites were recommended in the Neighborhood Analysis although some park strips along drainage ways in the proposed redevelopment areas were suggested. It is desirable that the sites of the Hunter Elementary School and Cleveland Training School be increased in connection with future redevelopment projects. (The sites of Marion, Morgan, and Jefferson Schools should also be enlarged and adequately





equipped in order to provide more recreation space.) In addition to the expansion of school grounds it is recommended that a playground be provided in the densely settled Martin-Ligon Streets area. Also, the Shelby Mills Ball Park and the Optimist Club Ball Park should be generally rehabilitated and planted with grass. Other possibilities for facility improvement would be to develop family camping sites in both City Park and Holly Oak Park, enlarge the Royster Golf Course to 18 holes, develop an arts and crafts center and provide more teen canteens. Especially needed is a teen canteen for non-white youths -- which might possibly be located in the building which presently houses the Carver Branch Library, or in the vicinity of Carolina Avenue.

## MEDICAL SERVICES

### CLEVELAND MEMORIAL HOSPITAL

The 184 bed Cleveland Memorial Hospital dates back to 1923 when a group of interested citizens combined their energies and monies to begin what was known then as Shelby Hospital. There is no indication of the bed capacity of the original building which was expanded in 1926 and 1928; however, the original unit within the present complex contains 47 beds under the existing arrangement. In 1950 and 1956 additions of 46 and 79 beds, respectively, were made. A boiler plant and laundry were constructed just behind the main hospital complex in 1956. A nurses' home was built just east of the main complex. The hospital is a community-owned, non-profit corporation operated by a twenty-member self-perpetuating Board of Trustees. The only other hospitals in the county are at Kings Mountain and Boiling Springs; consequently, Cleveland Memorial receives a large number of



patients from the northern parts of the county as well as a few from Rutherford County. The medical staff of the hospital consists of 45 physicians, 31 of whom are on the active staff. The hospital employs some 275 persons with an annual payroll exceeding one-half million dollars. The hospital dollar volume exceeds one-million annually in expenses and income. The percentage of occupancy has risen steadily over recent years to where it currently averages more than 80 per cent. National statistics indicate that plans for expansion should begin when occupancy passes 70 per cent.

#### Current Plans

A hospital planning consultant was engaged in 1962 to make a study of the hospital's expansion needs. On the basis of his recommendations, it was decided to hold a referendum (including \$500 thousand for the Kings Mountain Hospital) thereby initiating the necessary steps toward making a 120-bed addition to the hospital. The bond referendum carried, so the hospital board was able to proceed with its application for matching Hill-Burton funds. Besides the addition of 120 new beds, the \$3 million building program (supported also by the Duke Endowment and Kate B. Reynolds Foundation) which is under way will provide new ancilliary departments in all areas. Upon completion of the building program the hospital's bed count will be approximately 300. This will provide one bed per 60 persons -- using an estimated population of 18,000 for Shelby proper. Using an estimated Shelby Township population of 27,000 (976 over the 1960 figure) the 300-bed inventory yields one bed per 90 persons. There is no valid way to establish a hospital service population which is intermediate between the Township and County populations -- so it is difficult to calculate what persons-per-bed factor will be operative when the projected improvements are completed. It



is estimated, however, that 300 beds, with appropriate ancillary facilities will adequately serve Shelby's needs for at least the next five or six years. This judgment takes into consideration the steady increase in the elderly population and the prospect of more medicare or welfare assistance with regard to hospitalization expenses.

One of the hospital's major land use problems will be solved, at least for some years, in connection with present improvement activities. Reference is made to the off-street parking problem which has been rather acute. There are presently 370 parking spaces on the hospital grounds. This does not include the spaces which serve the nearby Cleveland County Health Department. (The hospital occupies a site of approximately 15 acres -- of which five acres are still vacant.)

#### HEALTH DEPARTMENT

As previously mentioned, the Cleveland County Health Department occupies quarters near the hospital. This is a complementary arrangement and the building itself seems adequate for at least the next five of six years. Additional space will, however, be needed by the Department by that time in order for it to discharge its many functions with reasonable efficiency.





## CONCLUSION

This document has presented a survey of existing conditions and a statement of plans for the future development of community facilities in Shelby. It is another element of the planning program designed to give direction and guidance to the growth of the entire community through the application of organized forethought. The continued maintenance and improvement of the various facilities for the benefit of posterity will depend upon knowledge and understanding of how adequately the community is meeting the needs and desires of the inhabitants.

This Community Facilities Plan also provides the foundation for a Public Improvements Program - Capital Improvements Budget which will program the suggested improvements on a priority basis in accordance with anticipated revenues. The Capital Improvements Budget details capital expenditures for a five or six year period with a specific listing of projects, time schedule, and means of financing. The Public Improvements Program will encompass a 20-year period but will not be as specific and exacting in programming needed improvements and will not include cost estimates.

It is apparent, therefore, that the information regarding existing and needed community facilities found herein is a prerequisite to formulating and implementing any significant planning program. Streets, sewers, water lines, schools, recreation areas, etc., are necessities which must be maintained and expanded in order to satisfy the demands placed on them, otherwise the community cannot continue to expand -- physically or aesthetically. Growth begets growth.



# APPENDIX



## METHODOLOGY - ENROLLMENT PROJECTIONS

The technique employed to develop the school service area projections is based on dwelling unit counts. That is, a ratio was established between the number of dwelling units within the school district and the number of pupils served by district schools. Factors were derived for white and non-white elementary students per dwelling unit as well as for white and non-white secondary students. It was necessary to compute separate factors for the two races because non-white families tend to produce proportionately more elementary students and fewer secondary students per dwelling unit than do white families. The factors were determined by dividing the number of each of the four types of students enrolled in September, 1964, into the number of white and non-white dwelling units (DU's) which were counted at approximately the same time. The factors are:

For white elementary students .....	.43 per DU
For non-white elementary students ...	.94 per DU
For white secondary students .....	.44 per DU
For non-white secondary schools .....	.33 per DU

The next step was to find out how many additional dwelling units could be accommodated within the boundaries of the Shelby City School District. This was done by analyzing each of the 15 study areas which were delineated for purposes of the Land Development Plan -- although it is apparent from Map 7 that the only fringe area study areas which fall within the school district are parts of 12 and 14. (All of Study Area 12 except that portion west of the First Broad River and about 40 per cent of the existing DU's in Study Area 14 are within the school district.) A further refinement of the projection technique was to compute not only the maximum possible dwelling unit count for each study area (assuming saturation development in line with existing zoning provisions, e.g., density allowance and non-residential pockets, topography, accessibility and utility extendability) but also to estimate the likely dwelling unit accretion by 1970 and 1980.





Table 2 shows the Potential Additional Dwelling Units and Population by Study Areas. The numbers in parentheses right after the study area numbers represent the persons-per-dwelling unit factors used for the different study areas. The city-wide average is 3.4 persons per dwelling unit and it seemed logical to raise the factor for heavily non-white areas and lower it for low-density white neighborhoods. The remainder of the table is self-explanatory. Table 3 shows how the expected 1970 population increment of 2,770 persons (discussed in Chapter IV of the Shelby Land Use Survey and Development Plan) will most likely be distributed among the 11 in-city study areas. The figures in parentheses following the study area numbers indicate the percentage of the total dwelling unit (hence population) increment which is expected to go into each study area for both 1970 and 1980. It will be noted that no new dwelling units (on a net basis) are anticipated in Study Areas 1, 2, 3, and 5. Dwelling unit and resulting population accretions are given for 1970 on the top line, 1980 figures on the second line and a total below them for each study area. It will also be noted that the figures in the last two columns on the right are cumulative, i.e., they include the existing dwelling unit counts for each study area.

It is these likely dwelling units (hence population) accretions which will be most helpful (rather than the maximum potential figures as found in Table 2) when the school service areas are delineated. This was done by combining the various study areas (or parts thereof) so as to reflect as nearly as possible a logical arrangement of tributary areas. The four school service areas chosen for purposes of this study are essentially the same as those presently used. Railroads, busy highways, creeks and other natural or man-made barriers were used as boundaries. As shown in Table 5, Westside Tributary area includes a portion of Study Area 4 (lying west of



the Southern Railway tracks) and all of the homes in Study Areas 5, 6, and 11. This, in effect, is the Graham and Oak Schools area. The Southside Tributary area includes all of Study Area 10 plus the bulk of the homes in the outside Study Area 12. This, in effect, is the Morgan School area. The Central and Eastside Tributary area embraces homes in that portion of Area 4 which lies east of the Southern Railway tracks plus 40 per cent of the homes in the outside Study Area 14 and all homes in Areas 3 and 9. This is the Marion and Hunter Schools area. The Northside Tributary area embraces all of Study Areas 2, 7, and 8. It is presently served by the Cleveland Training, Jefferson and Washington Schools, and will soon be served by the new northside school.

The projections of total dwelling units and elementary school student loads for 1970 and 1980 contained in Table 5 are based on assumptions and statistical operations which have been explained previously. These projections apply only to elementary school student loads since these are the only schools which can be considered to serve distinct neighborhoods.



TABLE 5

LIKELY ENROLLMENTS, 1970-1980  
SHELBY CITY SCHOOL DISTRICT

Tributary Areas	By 1970	By 1980
WESTSIDE		
Area 4 (Part)	82 DU's x .94 = 77	82 DU's x .94 = 77
Area 5	620 DU's x .43 = 267	620 DU's x .43 = 267
Area 6	517 DU's x .43 = 222	547 DU's x .43 = 235
Area 11	409 DU's x .43 = 176	423 DU's x .43 = 182
	Students <u>742</u>	Students <u>761</u>
SOUTHSIDE		
Area 10	468 DU's x .43 = 201	493 DU's x .43 = 212
Area 12 (Part)	567 DU's x .43 = 227	845 DU's x .43 = 363
	Students <u>428</u>	Students <u>575</u>
CENTRAL & EASTSIDE		
Area 4 (Part)	400 DU's x .43 = 172	434 DU's x .43 = 187
Area 3	245 DU's x .94 = 230	717 DU's or 433
	472 DU's x .43 = 203	
Area 9	574 DU's x .43 = 247	602 DU's x .43 = 259
Area 14 (Part)	363 DU's x .43 = 156	588 DU's x .43 = 253
	Students <u>1,008</u>	Students <u>1,132</u>
NORTHSIDE		
Area 2	493 DU's x .94 = 463	782 DU's or 587
	289 DU's x .43 = 124	
Area 7	108 DU's x .94 = 102	142 DU's x .94 = 133
	300 DU's x .43 = 129	350 DU's x .43 = 151
Area 8	228 DU's x .94 = 214	257 DU's x .94 = 242
	400 DU's x .43 = 172	406 DU's x .43 = 175
	Students <u>1,204</u>	Students <u>1,288</u>
	TOTAL ELEMENTARY STUDENTS 1970 <u>3,382</u>	TOTAL ELEMENTARY STUDENTS 1980 <u>3,756</u>

Note: There are 1,990 white elementary students now, plus  
900 non-white students.

Source: N. C. Division of Community Planning



Date	Description	Debit	Credit	Balance	Total	Total	Total
1890							
Jan 1	Balance						
Feb 1	...						
Mar 1	...						
Apr 1	...						
May 1	...						
Jun 1	...						
Jul 1	...						
Aug 1	...						
Sep 1	...						
Oct 1	...						
Nov 1	...						
Dec 1	...						
1891							
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1892							
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1895							
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1899







